Implementation of Daily Goals Tool to Structured Multidisciplinary Rounds

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Abstract

Problem: A Surgical Intermediate Care Unit (SIMC) within a large urban academic medical center is covered by multiple rotating Advanced Practice Providers (APP), leading to varied multidisciplinary rounding (MDR) formats. This lack of structure leads to communication breakdown, delayed communication, poor collaboration, and staff dissatisfaction. Five safety reports submitted from November 2021 to April 2022 were related to communication errors and inadequacy of communication. **Purpose:** This quality improvement (QI) project aims to implement a Daily Goals Tool (DGT) into the current MDR in the SIMC to evaluate the effectiveness of the structure rounding to improve staff collaboration, communication, and satisfaction. **Methods:** A unit-specific DGT was created with the input of SIMC staff. A DGT was utilized during MDR to discuss the plan of care for each SIMC patient over fourteen weeks following staff education. The use of the DGT was audited three times per week to measure compliance. Participants were asked to complete the Collaboration and Satisfaction about Care Decisions (CSACD) tool as a pre-and post-intervention survey. **Results:** Nine participants of MDT completed the pre-intervention survey and ten completed the post-intervention survey. Compliance audit found 60-100% weekly completion of the DGT. Post- CSACD result indicated that the structured rounding tool improved team members' satisfaction with decision-making, team communication, and team collaboration compared to the pre-CSACD result. **Conclusion:** Implementing a unit-specific structured rounding tool can organize the rounding process to improve staff collaboration, satisfaction, and communication among healthcare members.

Keywords: multidisciplinary rounds, structured rounding, rounding tool, staff communication, staff satisfaction

Implementation of Daily Goals Tool to Structured Multidisciplinary Rounds

A multidisciplinary round (MDR) is a patient-centered model of care that enables all members from different disciplines to come together face-to-face to communicate, coordinate care, establish goals, and plan patient care (Institute for Healthcare Improvement [IHI], 2015). It also gives nurses and ancillary members an active voice in shared decision-making (Verhaegh et al., 2017). The Institute for Healthcare Improvement (IHI) emphasizes structure and standardization as keys to leading an MDR (IHI, 2015).

The eight-bed surgical intermediate care unit (SIMC) within a large urban academic medical center implements MDR during weekdays. It is an open unit supervised by an Advanced Practice Provider (APP), and patients are managed jointly with the surgical services. The rounding format varied with rotating APPs covering the unit, and clinical nurses presenting patients do not have a structured method of presenting the patient. Due to the variability of the MDR, communication breakdown and missed information such as line care (central line, foley, drains), wound care, mobility concerns, and social needs of the patients were commonly overlooked. This breakdown in communication or missed information led to nurses needing to contact the APP or the surgical teams to clarify the plan. This led to delays in patient care, lack of collaboration, and poor staff satisfaction. Five safety reports submitted from November 2021 to April 2022 were related to communication errors and miscommunications. The root cause of the communication breakdown was the lack of a structured rounding format in the SIMC, identified in the root cause analysis (Figure 1).

Therefore, the purpose of this quality improvement (QI) project was to implement the Daily Goals Tool (DGT) in the MDR process to evaluate the effectiveness of the structure towards staff communication, collaboration, and satisfaction. The goals of this project were to implement the DGT 100% of the time during MDR and improve staff satisfaction, collaboration, and communication after implementing the DGT.

Available Knowledge

An evidence review was conducted to evaluate if standardized and structured MDR process can improve communication, collaboration, and staff satisfaction. Five articles were reviewed and summarized in Table 1. Using the Johns Hopkins Evidence-Based Practice, the data synthesis led to an overall evidence level of III with an overall quality rating of B.

An observational cross-sectional study by O'Brien et al. (2018) designed a structured rounding format incorporating a "hard stop" for nurses' input and summarizing the plan by clinicians at the end. The authors noted increased nurse participation during rounds, and correction of miscommunication during the summarization of the plan was observed. A post-survey also found that nurses reported an increased report of the clearly shared communication plan (13% to 24.2%) (O'Brien et al., 2018). Another study by Adams et al. (2018) created a rounding tool for nurses to complete during rounds. Implementing the rounding tool improved the perception of rounding effectiveness, team member satisfaction, and collaboration (Adams et al., 2018). A systematic review by Mercedes et al. (2016) reviewed six studies that evaluated staff satisfaction and communication. The finding suggested that a structured MDR implementation improved communication between team members. A quasi-experimental study by Malec et al. (2018) created a structured rounding method utilizing a checklist, including the plan for the day. This study concluded that structured rounding could increase interdisciplinary collaboration, elevate nurses' roles, and create a safe patient environment (Malec et al., 2018). Overall, the evidence suggests that a structured MDR can improve communication, collaboration, and staff satisfaction which supports a practice change.

Theoretical Framework

A Knowledge to Action (KTA) framework was utilized to implement the Daily Goals tool for establishing a structured rounding format in the SIMC. This framework (Figure 4) is divided into two components: Knowledge creation (represented as a funnel) which is surrounded by the Action cycle (Graham et al., 2006). The KTA framework was selected because of the framework's applicability and fluidity. This framework involves identifying the problem, determining the researched knowledge, and applying it to real-life situations.

For this QI project, the problem identified was the communication breakdown, the lack of collaboration, and staff dissatisfaction. The product of the Knowledge Creation leading to the beginning of the Action Cycle was utilizing a structured rounding tool to improve staff communication, collaboration, and satisfaction. As the cycle continued, the adaptation of the knowledge to the local context and assessment of barriers and facilitators by creating a unit-specific team was completed. The selected tool was the Daily Goals tool, modified with input from the SIMC staff to be unit specific. The cycle was then completed by monitoring the use of the tool during MDR, and the outcomes were evaluated. The knowledge will be sustained by incorporating the final form of the Daily Goals tool into the daily MDR process and continuing the education of the new staff in this process.

Methods

This QI project was conducted in an eight-bed SIMC within a large urban academic medical center. The staff for this unit included 18 nurses (day/rotating), three pharmacists, and eight Advanced Practice Providers (APPs) who were eligible to participate at the beginning of the project. On weekdays, an MDR was completed in the SIMC with an APP, bedside nurses, charge nurses, and pharmacists. The pre-implementation MDR process involved patient discussion during rounds, but it varied depending on the APP. The standard flowchart of the pre-implementation process and the desired process is outlined in Figures 2 and 3.

This project aimed to implement a Daily Goals Tool (DGT) to establish a structured MDR. A DGT is a tool recommended by the Agency for Healthcare Research and Quality [AHRQ] to effectively communicate, coordinate, and facilitate communication of plans among team members (AHRQ, 2017). To create a unit-specific DGT, an outline of systematic topics of the DGT was modified to fit the unit-specific goals. Surveys were created every three weeks for staff to review and give recommendations for the tool (June 2022-July 2022). After receiving feedback, the DGT was modified with the staff's input and the updated DGT was shared via weekly emails for staff to review (Appendix A). The final version of the DGT was presented to the SIMC staff during staff education week (9/5/2022-9/11/2022).

The project was implemented in phases. Phase I took place over one week (9/5/2022-9/11/2022) and involved providing education regarding the DGT and how it should be completed. During this phase, the Multidisciplinary team (MDT) members were also asked to fill out the Collaboration and Satisfaction About Care Decisions (CSACD) tool via REDCap. A CSACD is a tool that Judith Baggs developed, and it has been used to determine nurse-physician collaboration in making decisions and participants' satisfaction with the decisions (Baggs, 1994). The tool is nine questions on a seven-point Likert scale that focuses on communication and collaboration among team members. It is a valid tool supported by literature reviews, nurses, and physicians. It has an alpha reliability of 0.95 with the collaboration questions (Baggs, 1994).

Phase II was the implementation period of fourteen weeks following the education week. During the implementation period, the team members' roles did not change (bedside nurses continued to present the patient while the APPs led the MDR). However, the bedside nurses were asked to complete the tool while discussing the plan. The completed tool was placed in an assigned folder at the nurses' station. Throughout the implementation period, staff was asked to write recommendations or input on the DGT forms. These data were reviewed during tool audits. Tool audits were completed randomly thrice per week by the DNP student to check for tool compliance (Table 3). A run-chart of the compliance rate was done and shared with the staff throughout the implementation period. The last phase was the data analysis period, with the post-implementation CSACD data collection via REDCap. The findings are discussed later in this paper's results and discussion section.

The structure outcome goal for this project was that 100% of the MDT would be educated on how to complete the DGT. This was measured by reviewing the sign-up sheet the staff was asked to sign after receiving the education. The process measures involved audits completed by the DNP student through the implementation period. The outcome of this project was that there would be improved staff satisfaction, collaboration, communication, and satisfaction after implementing the DGT. These goals and plans are found in Table 2. Multiple strategies and tactics were implemented to achieve this QI project's aim. The implementation strategies and tactics included conducting small tests of change, obtaining buy-in from SIMC staff (leadership, APP, nurses, and pharmacists), utilizing the unit champions, completing audits and feedback, promoting adaptability, and sending regular reminders (Table 2).

This QI project was reviewed by the academic Institutional Review Board (IRB). This project was considered non-human subject research. Patient information was not used in this project, and participants' data were de-identified and stored in a REDCap. The DNP student completed the audits, and stored data in REDCap. Patient information within the completed tool was stored in assigned folders in the nurse's station. After the audits, the completed DGT was disposed of in hospital-assigned shredder bins.

Results

The structure goal of 100% of the MDT being educated on the DGT was not met since 26 members of the MDT completed the education out of 29 members (89.66%). This was measured by evaluating the sign-up sheet at the end of the education period.

The compliance rate of the DGT throughout the fourteenth week varied from 60-100%, as shown in the Run-Chart (Figure 7), with a median percentage of 93.75%. The lowest scoring week was week eight, with a compliance rate of 60%. However, eight out of 14 weeks of implementation achieved the goal of a 100% compliance rate.

The outcome goals were to improve staff satisfaction, collaboration, and communication. A CSACD tool was distributed via a REDCap link to the members of the MDT as pre- and post-implementation data. Nine participants completed the pre-implementation survey (five nurses and four APPs). All nine surveys were entirely completed, and all nine questions had varying responses. The CSACD tool used a Likert scale with 1=strongly disagree and 7=strongly agree. A bar graph of the pre-implementation responses is represented in Figure 5.

Pre-implementation survey had many questions with varying Likert responses. When it comes to the first question regarding team members planning together to make the decision, the pre-implementation responses varied from Likert scale of 2 (disagree) to 7 (strongly agree) as shown in Figure 5. A question asking about the open communication among team members, the response varied again from Likert scale 2-7 again. However, when asked about shared decision-making responsibilities among team members, there were more disagreed responses compared to more agreeing responses (Likert scale of 1-3= 55.5%). Regarding team members' collaboration during decision-making, 66.6% of the respondents selected the Likert scale of 3 or 4.

The post-implementation CSACD data had less variability compared to the pre-implementation data. A total of ten participants completed the survey (five nurses and five APPs). A bar graph of the post-implementation responses is represented in Figure 6. Regarding the first question regarding team members planning together to decide, the post-implementation responses had 90% of members selecting Likert scale of 7 (strongly agree) and one member selecting Likert scale of 4 (10%). When asked about open communication among team members, 90% of the members again answered strongly agree (7). Question regarding shared decision-making responsibilities among team members, 100% of the members selected strongly agree (Likert scale of 7). Team members collaboration question had the most amount of variability with the Likert scale of 4-7 (4=10%, 6=20%, 7=70%).

Since this was a process change, it did not require additional adaptation costs. During the implementation period, an additional section of SIMC electrolyte protocol was added to the DGT. However, it did not change the project's structure or process.

Discussion

The compliance rate of the DGT throughout the fourteenth week varied from 60-100% and did not meet the structure outcome goals of having a 100% compliance rate. The lowest scoring week was the eighth week, with a compliance rate of 60%. This was due to the substitute APPs' unfamiliarity with the project. Also, the variance was likely related to the ongoing barriers of staff shortages and the utilization of travel nurses.

Even though many participated in the project, the survey participation had a small sample size. The number of participants was similar for the pre-and post- results (nine participants for the pre-and ten for the post-). When comparing the pre-implementation and the post-implementation CSACD tool result, the key findings indicated that implementing the DGT improved staff communication, collaboration, and satisfaction. This was evident in the improvement in the post-implementation CSACD tool results. Before the implementation, responses regarding communication, collaboration, and satisfaction varied or had more disagreeing responses on the Likert scale. However, the post-implementation responses had more agree responses or even 100% strongly agree with responses to some of these topics.

These findings were similar to the literature review finding. The finding of O'Brien et al. (2018) indicated that using the structured rounding format could improve staff communication which was also demonstrated with this project by utilizing the DGT to create a structured rounding format. A study by Adams et al. (2018) indicated that the rounding tool improves the perception of team member satisfaction, collaboration, and effectiveness. Once again, this project demonstrated that the perception of collaboration and satisfaction was improved with the overall responses from the post-CSACD tool findings of higher Likert scale findings regarding open communication, shared decision-making, collaboration, and staff satisfaction.

Multiple strategies and tactics were utilized during the implementation period, as mentioned in Table 2. Utilizing the unit champions has been the most effective way to tackle the barrier of staff shortages and travel nurse utilization because the champions were able to exemplify the tool to others who were unfamiliar with the tool and reminded staff to utilize the tool during MDR. Due to this effectiveness, additional APPs were recruited as champions. Strategies to conduct small cyclical tests of change and promote adaptability also needed to be modified due to staff time constraints. Instead of hosting meetings, staff members were asked to write recommendations and feedback on the back of the rounding tools. Then this feedback was reviewed during the tool audits. Having a unit-specific rounding tool created with input from the staff and introducing this concept in phases was helpful to introduce the concept to the staff with the process change. Audits and feedback were modified by sending feedback on the audits to staff every other week emails rather than weekly emails to reduce the email fatigue experienced by the staff members due to the high email volumes at this institution.

During the implementation, a new initiative was to incorporate a SIMC electrolyte protocol into patient care. This new protocol was added to the DGT but did not change the overall process. This demonstrated the strength of this project in that the tool could be modified to fit the unit's needs, as patient care is constantly evolving. Utilizing the DGT helped to establish structured rounding to prevent missed patient information.

The limitations of this project are this project occurred during the COVID-19 pandemic, which was faced with ongoing staff shortage issues. This project also utilized convenience sampling and had a small sample size because the SIMC is a small inpatient unit.

Conclusion

Implementing the DGT was essential in establishing and creating a structured rounding format in the Surgical Intermediate Care Unit. This QI project aimed to improve staff collaboration, communication, and satisfaction with implementing the DGT. In conclusion, implementing a unit-specific structured routing tool can organize the rounding process to improve staff collaboration, satisfaction, and communication among MDT members.

The project's strength was that the result had such a positive outcome, despite the small pre- and post- survey sample size. To continue the sustainability of this project, the DGT will be continued during MDR. The DGT will be used as a template to discuss each patient so that it will continue to have a structured format, even with the MDT members continuing to change. The utilization of the DGT will also be incorporated into the new staff's orientation process so that everyone is familiar with the process.

Future QI projects can further evaluate if implementing a structured DGT can also improve aspects of patient outcomes. Since the DGT discusses the need for lines/tubes/drains, wound care, and social aspects of patient care, it would be interesting to evaluate if it can improve outcomes such as catheter-associated urinary tract infections (CAUTI), central line-associated bloodstream infection (CLABSI), and pressure injuries. A DGT can also be modified for additional units that would like to establish structured MDR throughout the institution.

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Malec, A., Mork, A., Hoffman, & Carlson, E. (2018). The care team visit: Approaching interdisciplinary rounds with renewed focus. *Journal of Nursing Care Quality, 33*(2), p.135-142. https://doi.org/10.1097/NCQ.0000000000000279

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O'Brien, A., O'Reilly, K., Dechen, T., Demosthenes, N., Kelly, V., Mackinson, L., Corey, J., Zieja, K., Stevens, J. P., & Cocchi, M. N. (2018). Redesigning rounds in the ICU: Standardizing key elements improves interdisciplinary communication. *The Joint Commission Journal on Quality and Patient Safety, 44*, 590-598. https://doi.org/10.1016.j.jcjq.2018.01.006

Verhaegh, K. J., Seller-Boersma, A., Simons, R., Steenbruggen, J., Geerlings, S. E., Rooij, S., & Buurman, B. M. (2017). An exploratory study of healthcare professionals' perceptions of interprofessional communication and collaboration. *J Interprof Care, 31*(3), 397-400. https://doi.org/10.1080/13561820.2017.1289158.

Table 1

Evidence Table

Citation: (add hyperlink to the citation) O'Brien, A., O'Reilly, K., Dechen, T., Demosthenes, N., Kelly, V., Mackinson, L., Corey, J., Zieja, K., Stevens, J. P., & Cocchi, M. N. (2018). Redesigning rounds in the ICU: Standardizing key elements improves interdisciplinary communication. *The Joint Commission Journal on Quality and Patient Safety, 44*, 590-598. https://doi.org/10.1016.j.jcjq.2018.01.006					**Level and Quality** **III, B**
Purpose/ Hypothesis	**Evidence Research Design**	**Sample – Population, Size, Setting**	**Intervention/Procedures**	**Primary Outcome/Measures**	**Results/Conclusions**
"In this study, we hypothesized that providing a standardized, structured approach to the daily rounds process would improve communication and collaboration among ICU team members working in different ICUs of an academic tertiary medical center"	**Research:** Observational study: Cross-sectional study.	**Setting:** Beth Israel Deaconess Medical Center (Boston): urban tertiary care academic medical center with seven ICUs and 77 adult critical care beds **Sampling Technique:** Convenience sampling -<u>Voluntary response sampling:</u> Total number of 932 participants from all disciplines (pharmacists, physicians, nurses, mid-level providers, and respiratory therapists) -<u>Direct observation of rounds</u>: 100 baseline observation of pre-intervention and 209 post-intervention observations **Participants:** Pharmacists, physicians nurses, mid-level providers and respiratory therapists from all 7 ICUs were eligible to participate **Group Homogeneity:** Mentioned in the study that there was similar representation from each group in both pre/post intervention group.	**Control:** Each ICUs with different rounding structures. **Intervention:** Three interventions are considered a toolkit: 1. Identifying a rounding order. 2. Requiring nursing input with designated "hard stop" at the end of presentation for nurse input. 3. Summarization of the plan by clinicians at the end of the plan to discuss actionable items **Intervention fidelity**: Researchers utilized the Lean in healthcare by using the Plan-Do-Check-Act (PDCA) phases. Gaps were identified by staff survey and direct observations. This data was presented in the interdisciplinary meeting and four broad categories of problems were identified. The team then identified three ways to address the above interventions. then a subgroup of interdisciplinary team from ICU developed and used a rapid experiment in three ICUs to modify and adjust interventions (Do or Improve phase). This occurred in six-week period which second large-group meeting was held, and the results of the rapid experiments were shared, and final toolkit was developed to be implemented in all the ICUs	**DV:** Engagement of nursing staff and overall improvement in communication between ICU team members **State the instrument, reliability, and measurement procedure:** **Measure:** Direct observations were completed by trained observers for the pre-intervention and post-intervention period. This data included the presence of providers and the involvement seen during the creation of daily plan. A tool used by the trained observers are provided as appendix. Tool is reliable and valid since it has been modified and tested during the rapid experiment period. Surveys were administered one year apart in the same months to all the members of the ICUs. The surveys were provided on a Likert scale, and it included a free-text field at the end of the survey. No inter-rater reliability mentioned.	**Statistical Results:** For the observational data, a chi-square tests of difference used. Nurse participation during presentation increased from 40% to 86.6% ($p<0.0001$) and nurse participation during the creation of the plan increased from 34% to 87.1% ($P<0.0001$). Physicians completed the discussion of summary with actionable items 86.1% of the time where miscommunication or clarification of the plan occurred 46.8% of the time. -For the survey nurses answering "always" to being present for the entire rounds did not significantly change (27.8% to 40.7%; $p=0.06$). However, nurses answering "always" felt that the plan was clearly communicated significantly increased from 13% to 24.2% ($p=0.03$). **Clinical Significance**: Nurse participation increased after implementation with miscommunications and errors being corrected during rounds. **Conclusions:** Researchers concluded that the implementation of a toolkit to standardize structured rounding improved nursing involvement and engagement during rounds. It also improved overall communication.

Citation: (add hyperlink to the citation) Adams, H. A. & Feudale, R. M. (2018). Implementing of a structured rounding tool for interprofessional care team rounds to improve communication and collaboration in patient care. *Pediatric Nursing, 44*(5), 229-246.					**Level and Quality III, B**
Purpose/ Hypothesis	**Evidence Research Design**	**Sample – Population, Size, Setting**	**Intervention/Procedures**	**Primary Outcome/Measures**	**Results/Conclusions**
"They hypothesized that improving the structure of interprofessional care team rounds by using a focused tool would improve interprofessional team communication, collaboration, and team member satisfaction".	**Research:** Comparative Quasi-experimental design	**Setting:** Eight-bed acute care inpatient pediatric unit in a community-teaching hospital in the northeastern US **Sampling Technique:** Convenience sampling **Participants:** Interprofessional care team consisting of charge nurse, pediatric medical resident, staff nurse, social worker, pastoral care, discharge planning nurse. Total of 24 participants were recruited and 16 members responded to pre- and post-intervention surveys. **Group Homogeneity:** Demographic frequency of pre- and post-implementation group was shared in a chart-appears to be congruent.	**Control:** Not structured and staff nurses documented outcome of rounds as a summary in patients' chart **Intervention:** Rounding tool created by the researchers and primary nurse was responsible for completing the tool. Completed over a 6mo. period. **Intervention fidelity**: The rounding tool was reviewed by multiple members of the interdisciplinary team prior to implementation to be comprehensive and accurate.	**DV:** Interprofessional team communication and team member satisfaction **State the instrument, reliability, and measurement procedure:** **Measure:** A Collaboration and Satisfaction about Care Decisions (CSACD) survey was used to measure the interprofessional team communication for pre-/post-intervention data. The internal consistency was reported with the Cronbach's alpha value of 0.93. A CSACD is a reliable and valid tool that has been developed to assess quality of interactions regarding decision making and satisfaction in the health care setting. The documentation process was measured using a Likert-type survey that was designed by the investigators. Reliability and validity not mentioned in the study.	**Statistical Results:** Pooled variance t tests and post hoc power analysis. Statistical improvement in collaboration and team member satisfaction as demonstrated in questions asking cooperation, coordination and satisfaction with the decision making. (Q1 ($p=0.090$), Q3 $p=0.015$), Q4 ($p=0.097$), Q6 ($p=0.031$), Q7 ($p=0.011$) and Q8 (0.071)). The overall score with statistically significant change ($p=0.081$). The analysis of the documentation process with statistical significance ($p<0.001$). Descriptive statistic finding of all team member satisfaction with the documentation after the implementation of the rounding tool with increased mean of 4.44 to 6.25. Increased satisfaction score of 3.56 to 5.88 which demonstrated improvement in the perception of effectiveness of rounds with the utilization of the tool. **Clinical Significance**: Improvement in team member satisfaction and collaboration with the implementation of a rounding tool. **Conclusions:** Improving communication and collaboration with a structured rounding tool has the potential to improve the quality and safety of patient care.

Citation: (add hyperlink to the citation) Mercedes, A., Fairman, P., Hogan, L., Thomas, R. & Slyer, J. T. (2016). Effectiveness of structured multidisciplinary rounding in acute care units on length of stay and satisfaction of patients and staff: a quantitative systematic review. *JBI Database of Systematic Reviews and Implementation Reports 14*(7), 131-168. https://doi.org/10.11124/JBISRIR-2016-003014					**Level and Quality** **III, A**
Purpose/ Hypothesis	**Type of Evidence Research Design**	**Sample – Population, Size, Setting**	**Intervention/Procedures**	**Primary Outcome/Measures**	**Results/Conclusions**
"The objective of the review was to determine the effectiveness of structured MDR in acute care units on length of hospital stay and satisfaction of patients and staff"	**Research:**. Systematic review of quasi-experimental and observational designs Eight studies selected: Three studies were experimental designs (2-randomized, 1-quasi-experimental) Five studies were descriptive (4-before & after design, 1-comparative design)	**Setting:** Total of 8 studies reviewed. 7/8 studies were conducted in the USA while one study was completed in Canada. 5/8 studies were completed in medical and/or surgical units while three were conducted in ICU. **Study Inclusion:** Studies that utilized IDR/MDR, in-patient acute care units and adult patients. **Study Exclusion:** Pediatric, mental health, obstetric patients, or adult outpatient population. The eligibility criteria and exclusion reasons listed in appendix. Sampling techniques & number of participants and members of IDR/MDR varied. Due to the varied characteristics of the sample population and settings, there is a heterogeneity between the studies. Meta-analysis could not be performed due to this heterogeneity.	**Control:** All eight studies utilized baseline rounding method of no structured or communication tool use prior to implementation (not described) **Intervention:** O'Leary et al. (2010): randomized unit with implementation of structured MDR on newly admitted patients using a SIDR tool. O'Leary et al. (2011): Randomized unit rounds with implementation of SIDR tool for structured MDR Southwick et al. (2014): MDR members received orientation of playbook regarding roles/feedback & relationship. Structured rounds using SOAP & SBAR. Dodek & Rabound (2003): Structured rounds with specific order: summary of events, patient issues and Plan of care discussed using a created worksheet Gausvik et al. (2015): utilization of SIBR model with daily goals and safety checklist Menefee (2014): Utilized the Menefee Model and Interdisciplinary plan of care (IPOC) created used as a tool for rounds Narasimhan et al. (2006): daily plan worksheet used during MDR Pronovost et al. (2003): implementation of daily goals sheet during MDR **Intervention fidelity**: Intervention fidelity of each study was not discussed. However, each paper was independently assessed by all reviewers for methodological validity and a standardized critical appraisal instrument was used prior to inclusion.	**DV:** Staff satisfaction and communication **State the instrument, reliability, and measurement procedure:** **Measure:** O'Leary et al. (2010): Utilization of a Teamwork and Safety Climate Survey which is a reliable/valid tool. O'Leary et al. (2011): Utilization of a Teamwork and Safety Climate Survey which is a reliable/valid tool. Southwick et al. (2014): Members were surveyed but the survey used was not identified-but internal consistency tested with Cronbach alpha coefficient >/0.7 Dodek & Rabound (2003): developed a staff satisfaction survey-the description of the survey not mentioned so reliability/validity can't be stated Gausvik et al. (2015): A survey was developed by the researchers to measure staff satisfaction. it was measured every day for 2 weeks. Unable to check reliability/validity since it is not described. Narasimhan et al. (2006): measured with a questionnaire designed by the researchers which was done pre-implementation, one week, 6 months and 9 months post-implementation. unable to check reliability/validity-not described	**Statistical Results:** O'Leary et al. (2010): Statistically significant improvement in staff satisfaction (p=0.005) measured by the mean teamwork climate score. Statistically significant improvement in nurses answering high or very high for quality of communication and collaboration with physicians (p=0.02)-but did not state the statistical test used O'Leary et al. (2011): statistically significant improvement in staff satisfaction (p=0.008) with 80% of nurses (n=25) rating communication and collaboration as high or very high compared to control (54%, n=24; p=0.005)-However did not state statistic test used Southwick et al. (2014): stastical significant improvement in staff satisfaction reported by physician (p=0.045), resident (p=0.032) and student (p=0.0002) on a 5-point Likert sale. Dodek & Rabound (2003): statistically significant improvement in all staff satisfaction (p=0.0001) with a CI of 95%. Gausvik et al. (2015): statistically significant improvement (p<0.001) by calculating mean score on the 4-point Likert scale Narasimhan et al. (2006): Statistically significant improvement in team communication among physicians (p=0.01) and nurses (p=0.03) on a 5-point-Likert scale. **Clinical Significance**: Evidence suggest that structured MDR result in an improved staff satisfaction, and it suggests that the utilization of a communication tool may contribute to this. **Conclusions:** All the included studies reported statistical significance in staff satisfaction with the utilization of a structured MDR approach with a communication tool.

<table>
<tr><td colspan="5">Citation: (add hyperlink to the citation)
Abraham, J., Kannampallil, T.G., Patel, V.L., Patel. B., & Almoosa, K. F. (2016). Impact of structured rounding tools on time allocation during multidisciplinary rounds: An observational study. JMIR Human Factors, 3(2). e29. https://doi.org/10.2196/humanfactors.6642</td><td>Level and Quality
III, B</td></tr>
<tr><td>Purpose/ Hypothesis</td><td>Type of Evidence Research Design</td><td>Sample – Population, Size, Setting</td><td>Intervention/Procedures</td><td>Primary Outcome/Measures</td><td>Results/Conclusions</td></tr>
<tr><td>“In this exploratory study, we evaluate the effect of 2 structured rounding tools on time allocation for patient case presentation and communication during daily rounds”</td><td>Research: Observational study- Cross-sectional study</td><td>Setting: 16 bed MICU at a tertiary medical center.
Sampling Technique: Convenience sampling
Participants: 16 participants of residents/fellow/attending and 6 critical care nurses, 1 pharmacist, 1 Respiratory therapist
Group Homogeneity: 2 dependence teams comprised of 8 core participants with same type of roles (1 attending, 1 fellow, 3 residents and 3 interns). Total of 82 patients were discussed and it was equally divided with 41 patients were discussed using SOAP and 41 patients discussed using HAND-IT.</td><td>Control: No control condition per authors
Intervention: Two paper-based rounding tools: SOAP note and HAND-IT to be utilized during multidisciplinary rounds (MDR) to present patients and compared in random 8 days of morning MDR.
Intervention fidelity: During the 1st month of the data collection, residents/interns trained with SOAP & HAND-IT tool for 4 days each and tested it for 2 days to be familiar with the tool. The interventions were recorded and in additional, a researcher (first author) observed rounding sessions and made field notes and conducted informal interviews after the rounds.</td><td>DV: communication breakdown defined as “any failure in information flow and transfer from the outgoing post call team to the on-call team” with the utilization of SOAP note vs HAND-IT tool.

State the instrument, reliability, and measurement procedure:

Measure: SOAP note & HAND-IT tool are reliable and valid tools (tested and utilized in many settings).

Per authors, the communication breakdown was evaluated using a validated communication framework, however this was not described. For coding purposes, the type of communication was broken down into three categories (incomplete, inaccurate/conflicting, irrelevant).

High inter-rater agreement between the two coders (Cohen k=0.975).</td><td>Statistical Results: Regression analysis used and there was significant linear dependence between time spent on patient and breakdown ($p<0.05$) with SOAP use. Average increase of 1.04 breakdown with every 120 seconds. There was significant linear dependence ($p<0.05$) with HAND-IT but break down was 0.018 for every 120 seconds.
Clinical Significance: Increased length of discussion led to communication breakdown in SOAP more than HAND-IT tool.
Conclusions: Structured tools can mitigate disproportionate time allotted and communication breakdowns that occur during rounds. Compared to SOAP, more structured HAND-IT tool is more effective in communication breakdown during MDR.</td></tr>
</table>

Citation: (add hyperlink to the citation) Malec, A., Mork, A., Hoffman, & Carlson, E. (2018). The care team visit: Approaching interdisciplinary rounds with renewed focus. *Journal of Nursing Care Quality, 33*(2), p.135-142. https://doi.org/10.1097/NCQ.0000000000000279					**Level and Quality** **III, A**
Purpose/ Hypothesis	**Type of Evidence Research Design**	**Sample – Population, Size, Setting**	**Intervention/Procedures**	**Primary Outcome/Measures**	**Results/Conclusions**
"The goal of the enhanced process, the care team visit, was to improve the quality of care as measured by patient satisfaction, clinical outcomes (CAUTI/CLABSI rates, Foley catheter/central line device utilization), and nurse-other provider (physicians, nurse practitioners [NPs], physician assistants [PAs]) perceptions of collaboration in patient care decision-making."	**Research:** Quasi-experimental design.	**Setting:** 592-bed academic medical center in the Midwest. Study conducted in 26-bed adult medical general care unit **Sampling Technique:** Convenience sampling **Participants:** 35-unit nurses and 20 other providers (15 physicians, 3 NPs, 2 PAs). **Group Homogeneity:** Total of rounds observed: -103 pre-implementation rounds, --131 post-3month implementation -106 post 6-month implementation -122 post 9-month implementation. No description of the participants or patients are described.	**Control:** Rounding method prior to implementation-Not described. **Intervention:** Rounding using an interdisciplinary team approach. Nurse initiates the visit by reviewing purpose, introductions, 24-hour summary and the safety checklist. The provider (physician/NP/PA) then does clinical update, plan for the day, discharge plan, inviting member input. Checklist topics include: foley catheter, central line, new medications or medical changes, pain control, mobility and fall prevention, and discharge information. **Intervention fidelity**: Intervention created and reviewed by interdisciplinary steering committee (members include nursing director, physician, nurse manager, project manager health systems engineer, pharmacy, nursing, case management, patient/family advisors). Then 2-hour training sessions completed by nurses and other providers (physicians, NPs, PAs). Training session gave relevant background and review of the structured rounds. Scripted example followed by small-group role play and skill checkoff completed.	**DV:** Nurses and other providers perceptions of collaboration in patient care decision making. **State the instrument, reliability, and measurement procedure:** **Measure:** Project leaders observed rounds pre-and at 3,6,9 months post-implementation. Observers filled out a checklist based on items observed. Same observers used the same checklist pre-implementation and watched independently to enhance interrater reliability. A Collaboration and Satisfaction About Care Decisions (CSACD) survey was used to determine perceptions of collaboration between nurse and other providers. This survey is a reliable/valid tool.	**Statistical Results:** 2-tailed z-test used to determine pre/post scores. Nurses and providers perception of collaboration measured via CSACD survey. Pre/post-intervention results showed that the overall percentage of nurses who rated 6 or 7 for each item was lower than the other providers. However, both groups demonstrated statistically significant positive ratings of 6 or 7 post 9-month intervention ($p<0.05$). **Clinical Significance**: implementation of structured IDR with checklist can improve nurse and other provider collaboration and satisfaction. **Conclusions:** Renewed approach with the care team (IDR) utilizing evidence-informed structures can promote interdisciplinary collaboration, elevate the nurse's role, coordinate safety checks and patient/family centeredness.

Table 2

Measures and Measurement Table

PLAN		
Measures		
Project Goals	Measure Pre-Implementation	Measure During Implementation
Structure Goal(s)		
1. 100% of the Multidisciplinary team members will be educated on the Daily Goals Checklist	Staff members will be asked to sign the “sign in” sheet for education	Staff members will be asked to sign the “sign in” sheet for education
Process Goal(s)		
1. 100% of rounds will use the Daily Goals Tool (DGT)	None-DGT will not be available until implementation	Folders will be audited three times throughtout the week on a random day to check for completed Daily Goals Tool Denominator: total number of rounds Numerator: Number of completed checklist
Outcome Goal(s)		
1. Staff satisfaction and collaboration measured by Collaboration and Satisfaction about Care Decisions (CSACD) tool	Staff will complete the CSACD tool prior to implementation Denominator: Staff members (all pharmacists, APPs, nurses) Numerator: total number of staff who completes the CSACD tool	CSACD tool post-implementation. Denominator: Staff members (all pharmacists, APPs, nurses) Numerator: total number of staff who completes the CSACD tool

Implementation Plan	
Strategies and Tactics (Bingham ABCDE)	Goal to Achieve
Accountability: Complete audits and provide feedback DGT will be completed and placed in patient folder. This will be audited 3x/week during implementation.	DGT will be completed 100%. Audits will be completed, and data will be entered into REDCap.
Buy-in: Promote Adaptability & Allowance Structure Modify DGT with nurses/APP/pharmacists to create more unit specific sheet. Discuss finding that implementation will improve communication AND possibly save time during daily rounds. Share with nurses that overall standardized/structured rounds will give nurses chance to participate in plan of care.	Surveys will be implemented to involve the staff to evaluate the rounding tool and make changes according to the input to fit the team's needs. Staff will share their experience with the tool and will be able to create unit specific DGT.
Collaboration/Communication/Structure Changes: Conduct cyclical small tests of change & Remind clinicians Meeting information will be sent out via weekly SIMC update emails. Meeting will be opened to anyone who wants to participate, and as DGT gets modified, it will be shared with the staff. Will develop a reminder system by including the project information in the SIMC weekly update emails that are sent out by the SIMC manager.	Staff involvement with meetings and DGT creation. Meeting agenda will be created, and meeting discussions will be documented and reviewed. The DNP student will coordinate and send out the reminder email to be included in the weekly SIMC email by providing the material to the manager weekly by every Thursday PM.
Data: Complete audits and provide feedback Data will include audits of DGT being completed. Also, staff collaboration/communication/satisfaction will be measured using the Collaboration and Satisfaction about Care Decisions (CSACD) tool before and after then implementation.	100% of involved staff will complete the DGT and the CSACD tool.

Education: Use train-the trainer strategies & Identify and prepare champions Education will be created to share the final format of the checklist. It'll be given at least three different days so that every staff member has the chance to participate.		100% of involved staff will attend the education session. Education regarding the rounding tool during each meeting with the champions will be completed. Then the champions will distribute the instruction and take on the leadership role to continue encouraging implementation. A roster of employees completing the education will be collected and reviewed. Meetings will be held with the champions to discuss their role as a champion. Champions will assist in distributing and educating the SIMC staff regarding implementing a new rounding tool.
Data Collection Plan		
Project Goals	Data Collection Method (who, how, when)	Data Collection Tool
100% of involved staff will complete the Pre-implementation CSACD tool	2 weeks prior to implementation of DGT, the CSACD tool Will be sent out by the student via online survey	CSACD tool will be created into an online survey
100% of MDR will utilize the checklist	During implementation, APP champion and Nurse champions will remind the staff of the use of the DGT. The Tool will be audited by the student three times per week by collecting the completed forms in the patient's folder.	Student will audit for completed DGT.

100% of involved staff will complete the post-implementation CSACD tool	2 weeks post-implementation of DGT. Student will send the CSACD tool again via online survey.	CSACD tool will be created into an online survey

Sustainability Plan This format of rounding will be incorporated into staff on-boarding (for APP, Nurses and Pharmacists).

Table 3

Daily Goals Rounding Tool Audit

Date_of_Audit	Bed_10	Bed_11	Bed_12	Bed_13	Bed_14	Bed_15	Bed_16	Bed_17
9/12/22	N/A	Yes	Yes	N/A	Yes	Yes	N/A	Yes
9/13/22	Yes	Yes	No	No	Yes	No	Yes	No
9/14/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9/19/22	Yes	Yes	Yes	N/A	Yes	Yes	N/A	N/A
9/22/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9/23/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9/26/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9/27/22	Yes	Yes	Yes	N/A	Yes	N/A	Yes	Yes
9/28/22	Yes	Yes	Yes	N/A	Yes	N/A	Yes	Yes
10/03/22	Yes	No	No	Yes	Yes	Yes	Yes	No
10/06/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/07/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/10/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
10/11/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
10/12/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
10/18/22	Yes	N/A	Yes	Yes	N/A	Yes	Yes	Yes
10/19/22	Yes	No	Yes	Yes	Yes	Yes	No	No
10/20/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/24/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
10/25/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
10/26/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
11/01/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
11/02/22	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
11/04/22	No	No	N/A	No	N/A	No	No	No

11/09/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
11/10/22	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
11/11/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/15/22	Yes	N/A	N/A	Yes	Yes	Yes	Yes	Yes
11/16/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/17/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/21/22	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes
11/22/22	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/25/22	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
11/30/22	Yes	No	No	Yes	Yes	No	Yes	Yes
12/01/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/02/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/05/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/06/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/07/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/12/22	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
12/15/22	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
12/16/22	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A

Figure 1

Fishbone Analysis

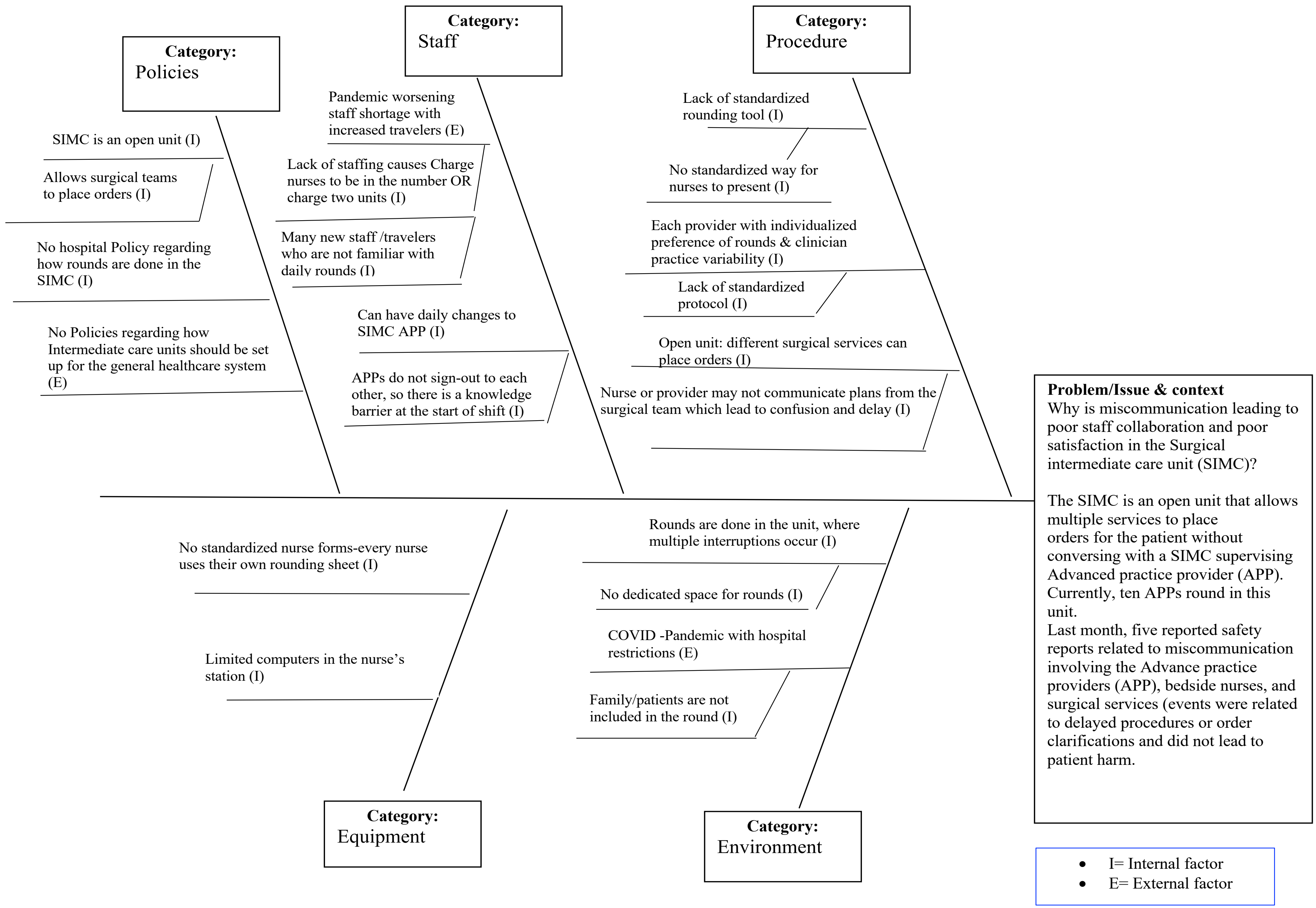
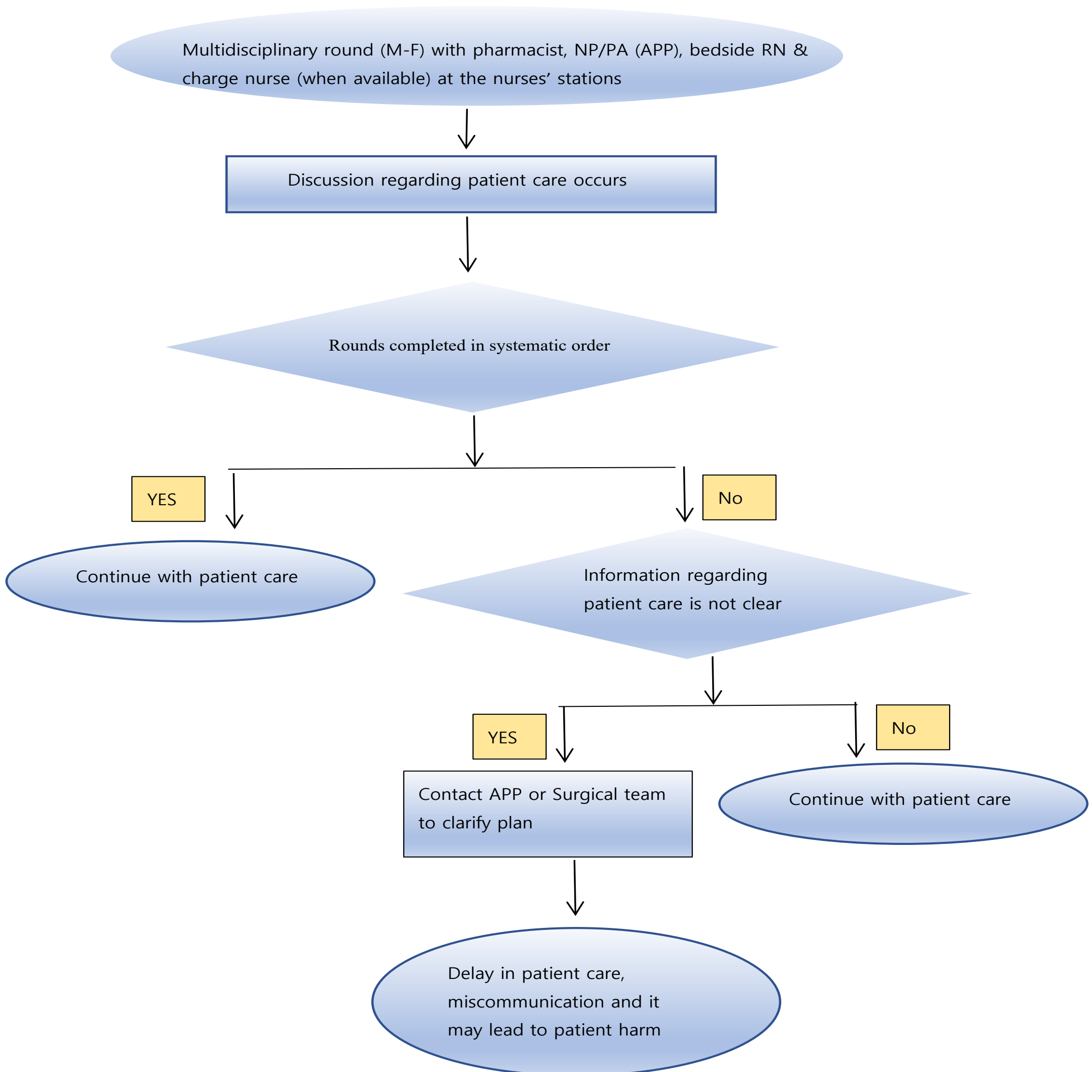


Figure 2

Standard Flowchart of the Current Process for MDR



Key:

Oval: Start or end of the process

Diamond: Decision point

Rectangle: Step in the process

APP-Advance Practice Provider

Figure 3

Proposed Process Map

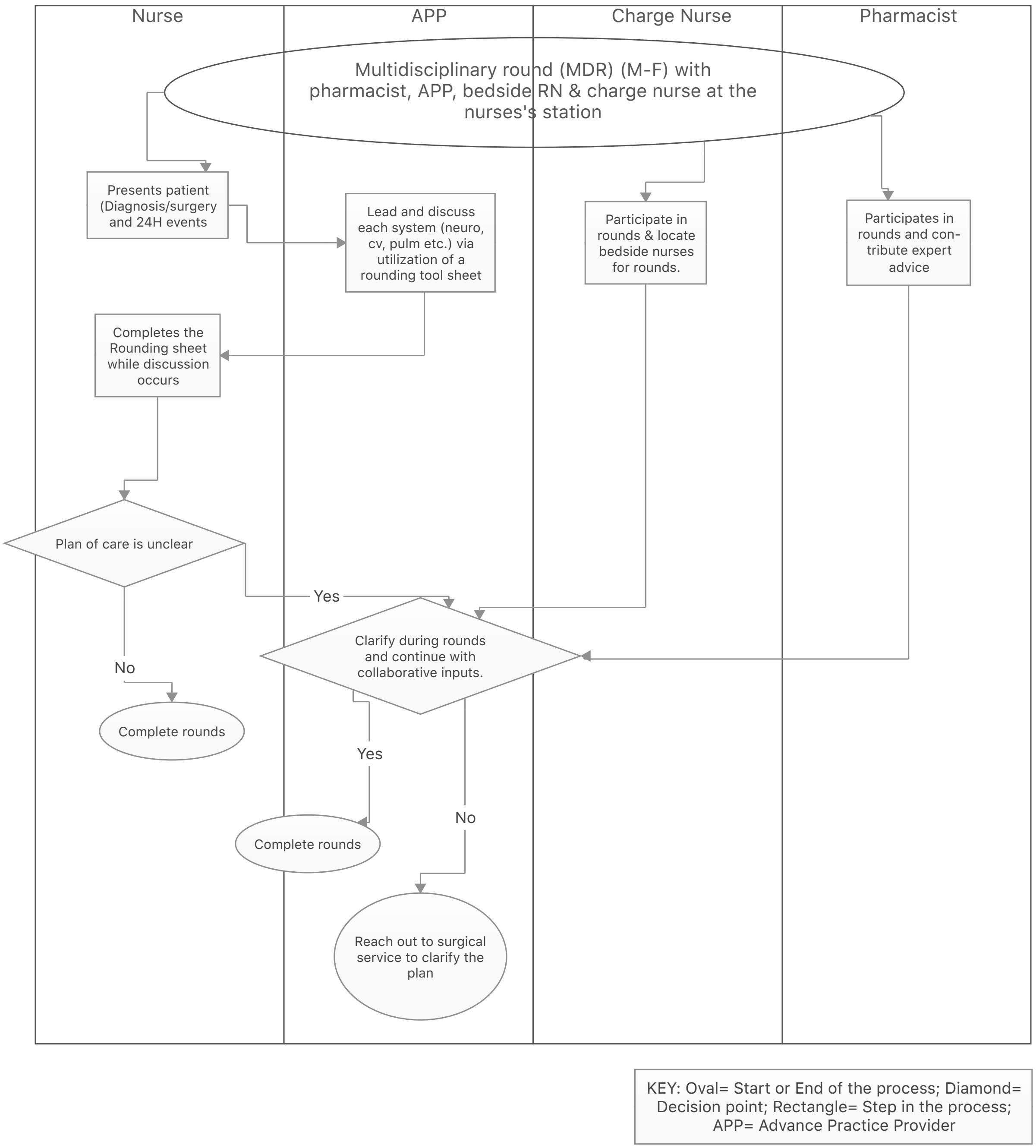


Figure 4

Knowledge to Action Framework

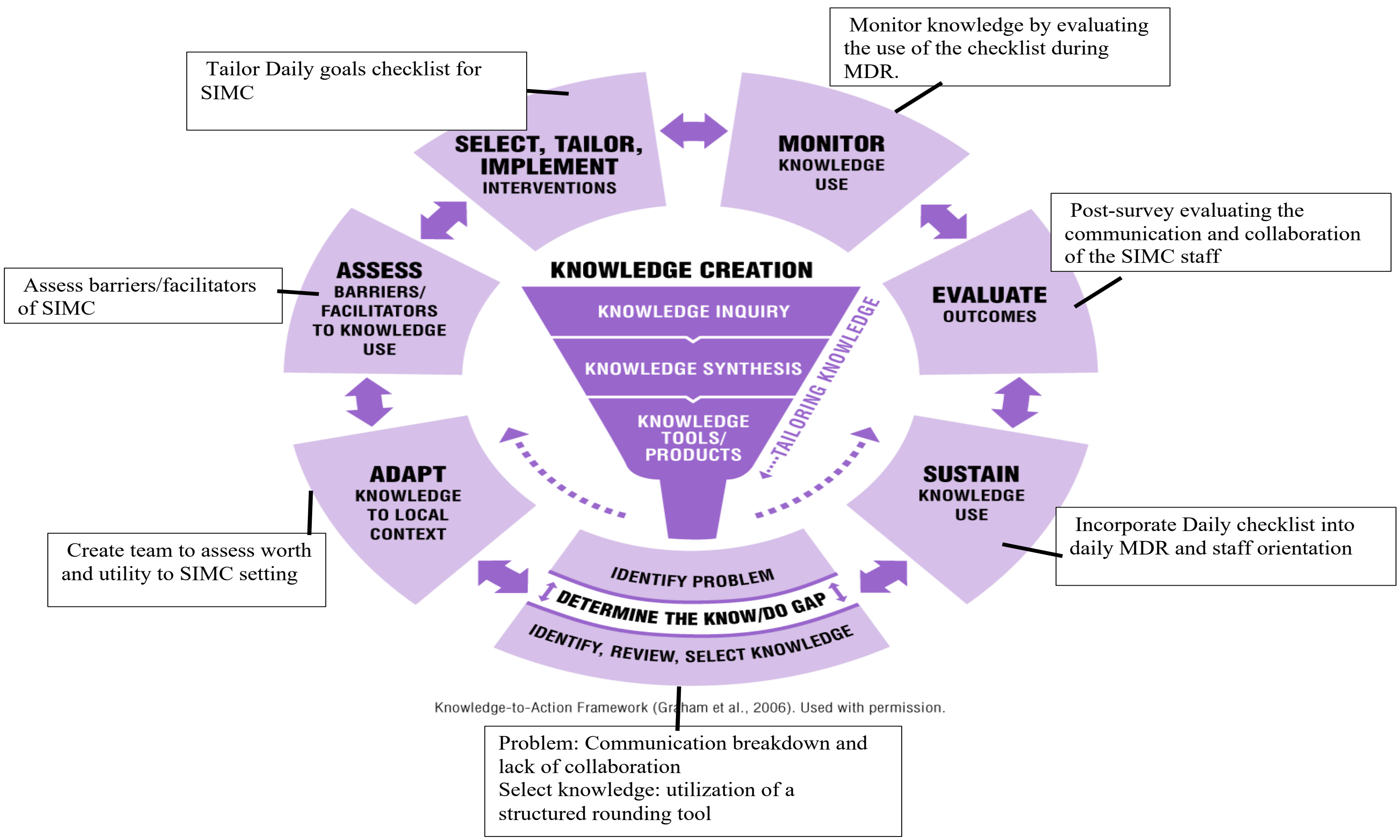
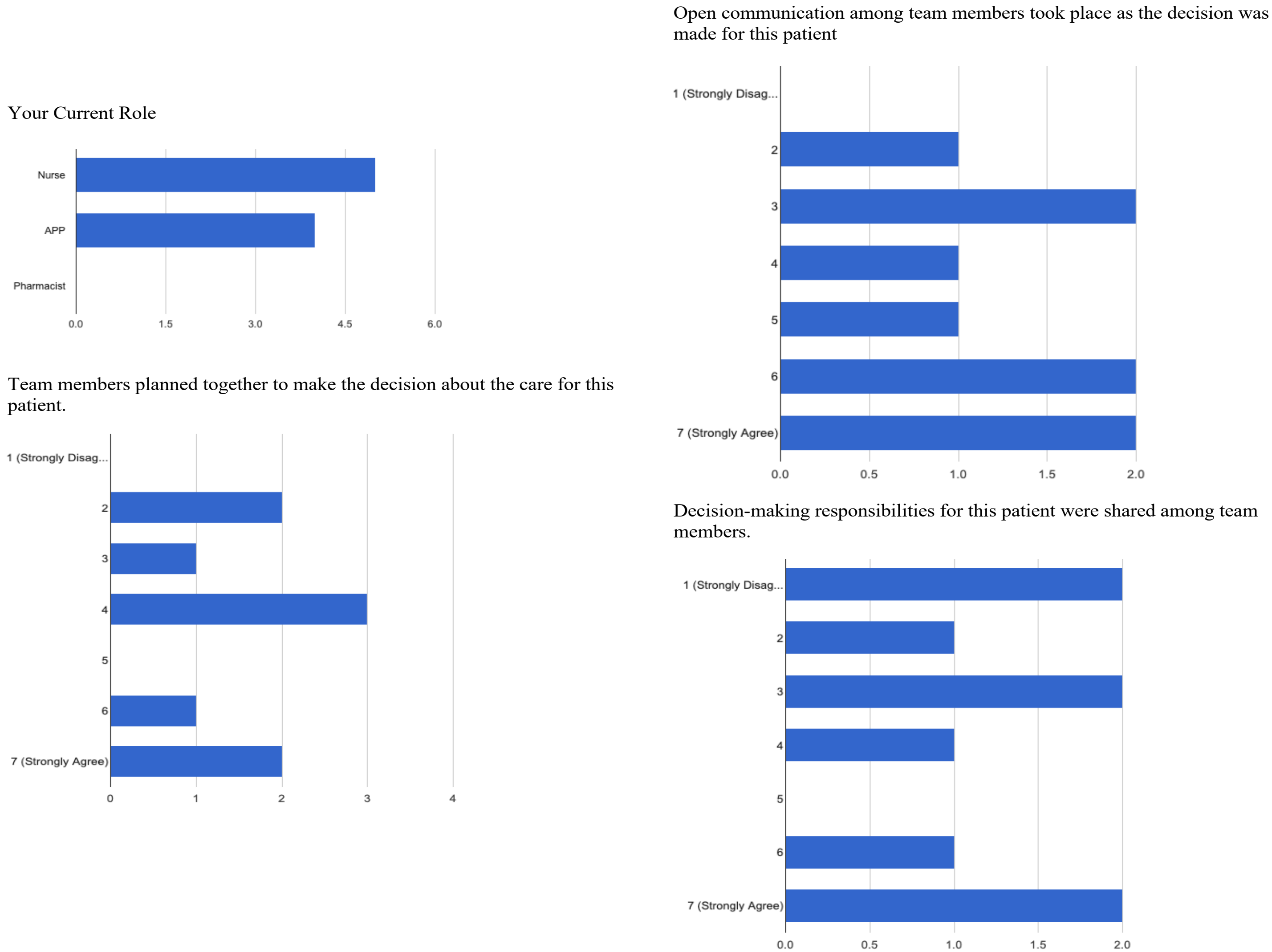
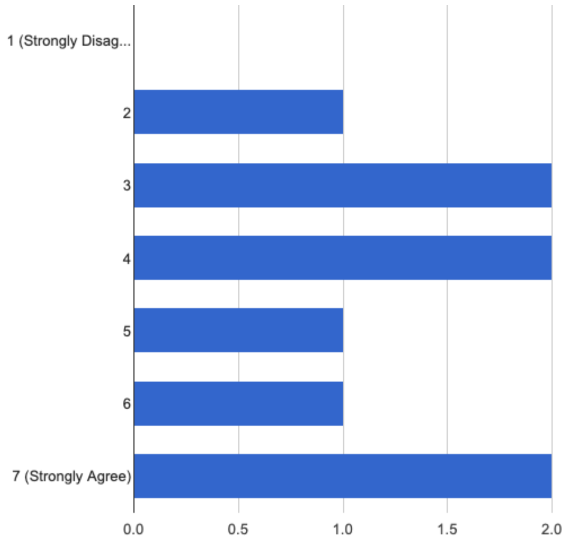


Figure 5

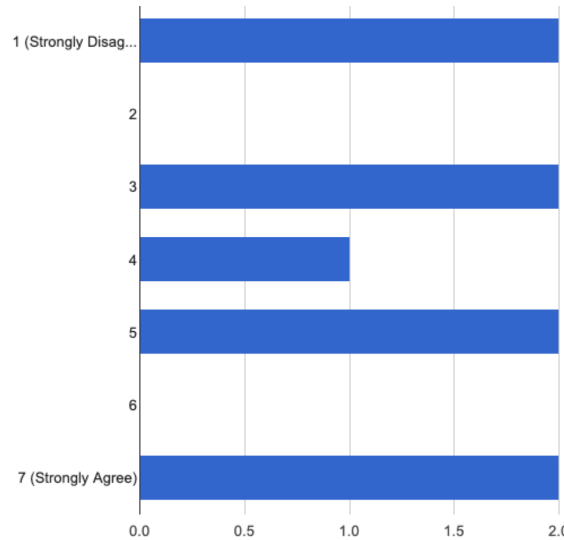
Collaboration and Satisfaction About Care Decisions (CSACD) Pre-Data



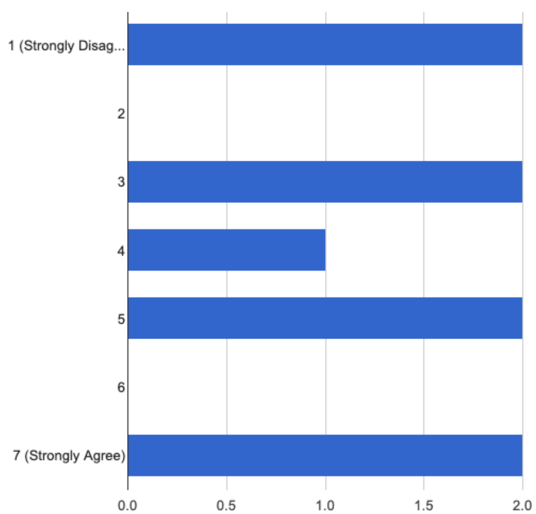
Team members cooperated in making the decision



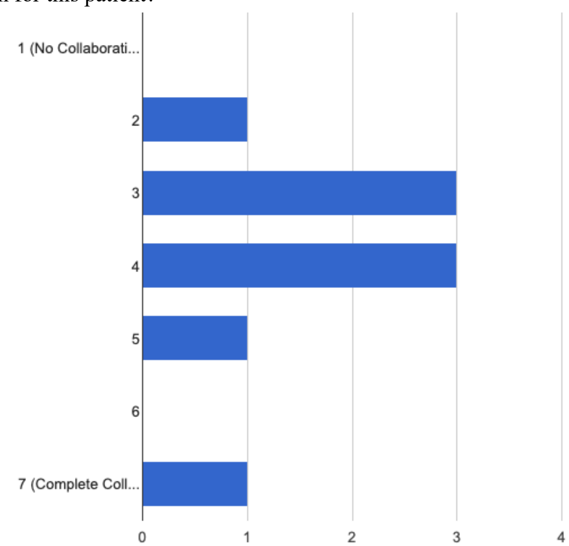
Decision-making for this patient was coordinated among team members



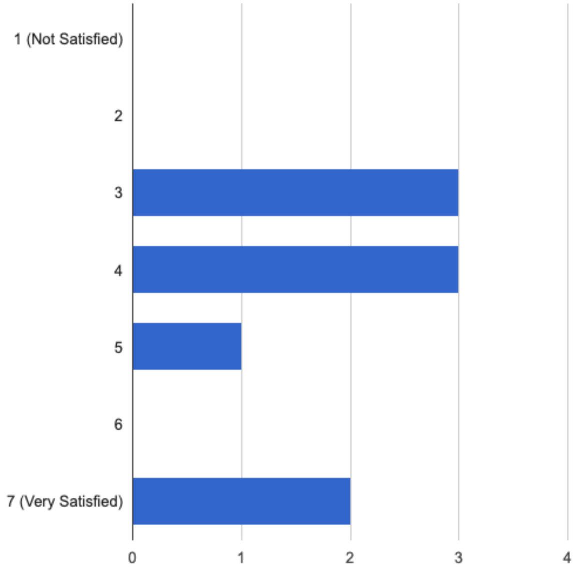
In making the decision, all team members' concerns about this patient's need were considered.



How much collaboration among team members occurred in making the decision for this patient?



How satisfied are you with the way the decision was made for this patient, that is with the decision-making process, not necessarily with the decision itself?



How satisfied were you with the decision made for this patient?

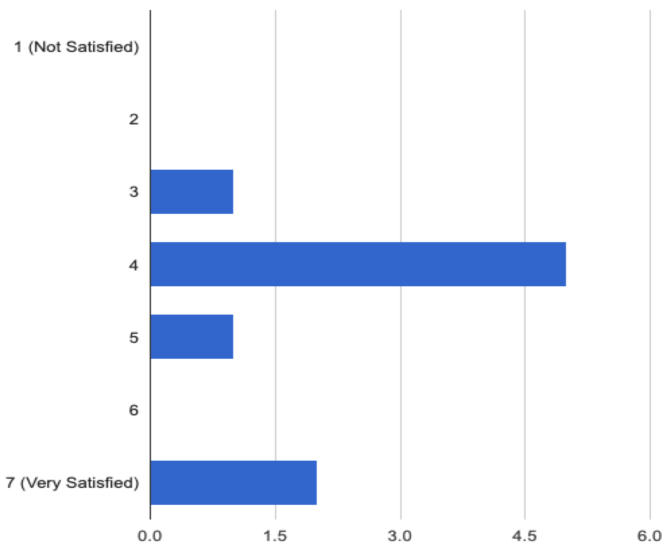
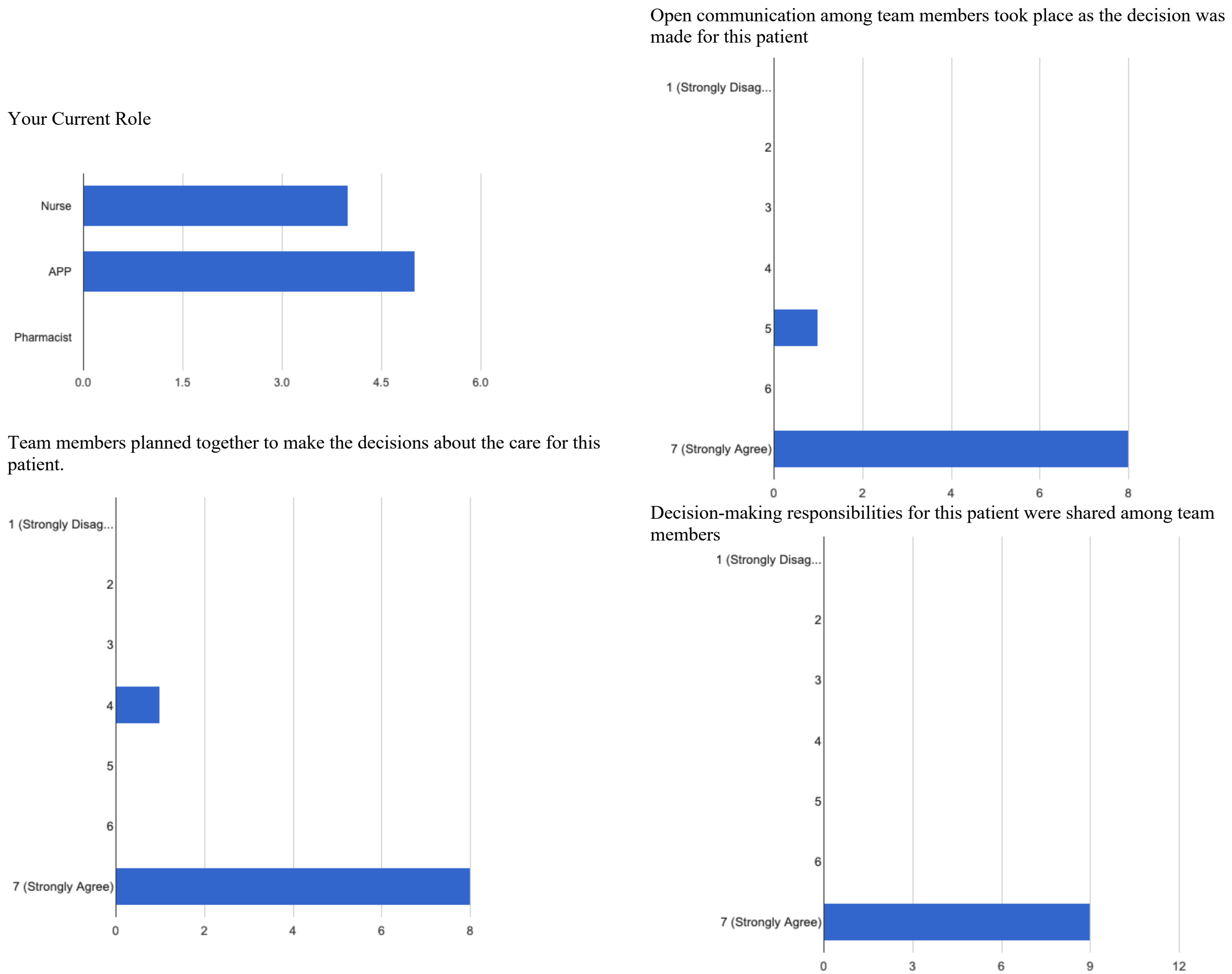
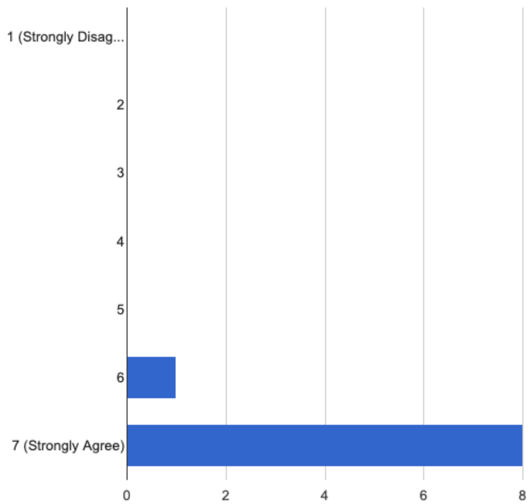


Figure 6

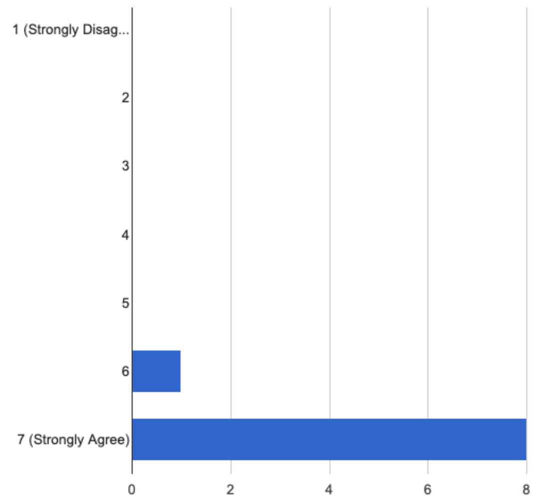
Collaboration and Satisfaction About Care Decisions (CSACD) Post-Data



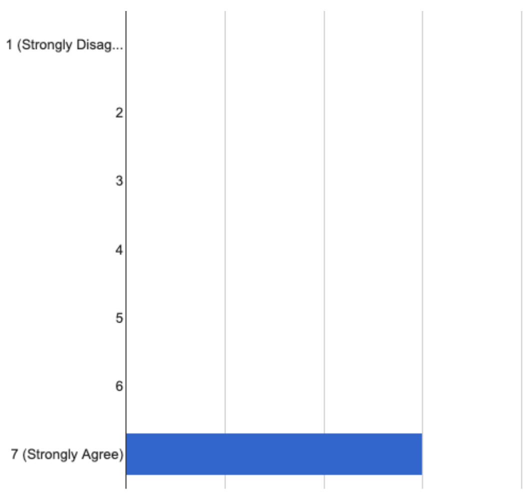
Team members cooperated in making the decision



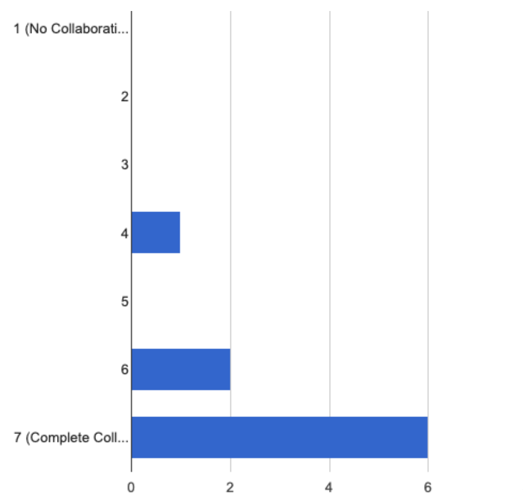
Decision-making for this patient was coordinated among team members



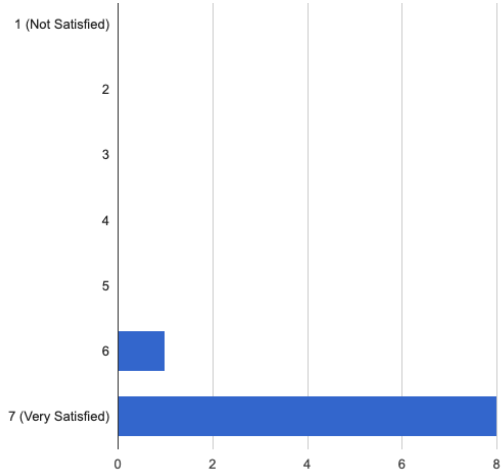
In making the decisions, all team members' concerns about this patient's need were considered



How much collaboration among team members occurred in making the decision for this patient



How satisfied are you with the way the decision was made for the patient, that is with the decision-making process, not necessarily with the decision itself



How satisfied were you with the decision made for this patient

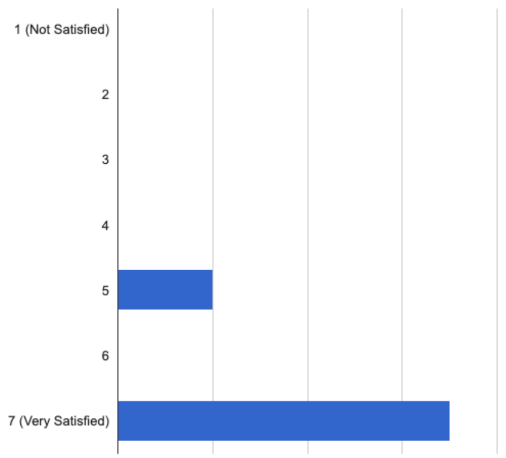
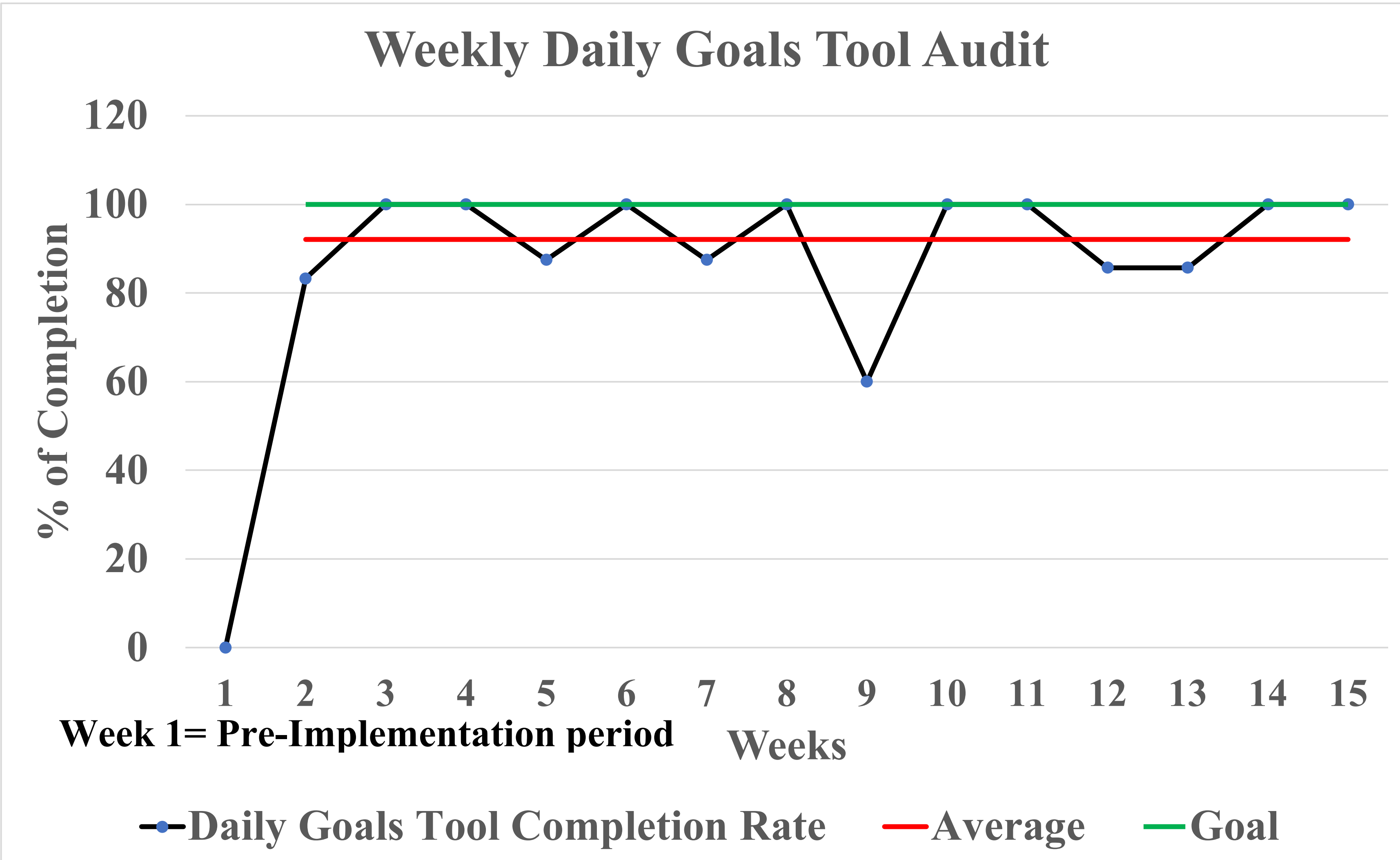


Figure 7

Daily Goals Rounding Tool Compliance Rate Run-Chart



Appendix A

Daily Goals Rounding Tool

Daily Goals Tool **Last Name:**

Date:

Admitting Dx/Surgery 24H events:	DO NOT NEED TO FILL THIS SECTION. PLEASE DISCUSS.	
RESCUE	GREEN YELLOW ORANGE RED	GOALS
Neuro:	**Neuro Check Q** 1 2 4 8 12 **Pain** PO IV PCA PCEA ERAS **AWS Q** 1 2 4 N/A **Delirium** CAM + CAM - N/A **Mobility** 1 2 3 4 5 **Activity** OOB to chair Ambulate w/assist Bedrest **Restraints** Not required Initiate/continue Discontinue **Sleep Promotion** Yes No	
FACE:	**FLAP Checks** Q 1 2 4 12 N/A **NV Check** Q 1 2 4 12 N/A	
CV	**Cardiac Monitor** Yes No **SBP Goals** SBP< **HR Goals:**	
PULM	**SPO2 Goals>** 92% 88% **O2 Device** RA NC Venturi NRB Highflow TC **Suction requirement:** Q ____ N/A **Ventilator setting**: **Trach:** Type/Size **Chest tube:** WS Suction N/A	
GI	**GI PPx** Initiate Continue Discontinue N/A **Diet** Reg CKD Diabetes Modified diet TPN NPO **TF** Keo NG PEG (G-tube) J-Tube Bolus Continuous Cyclic N/A **Ostomy** Ileostomy Colostomy N/A **Need BR adjusted?** Yes No	
GU	Voids External Cath Foley Straight Cath **Fluid Restrictions** <500 <1L N/A **Need for Diuresis?** Yes No **Electrolyte Protocol** Yes No N/A	
HEME	**DVT PPx**: Heparin Lovenox Full AC **Hgb goal >** 7 g/dL 8 g/dL	
ENDO	**POC Glucose** ACHS Q 1 2 4 6 None **SSI** Low Medium High Insulin Gtt Standing/Long acting	
ID	**Fever in last 24H** Yes No **Need for Cultures?** BCx Urine Cx Sputum Cx CXR None **Need for Antibiotics/End date:**	
Lines	A line Central line PICC Midline PIV DC Lines?	
MSK	Weight bearing status- RUE RLE LUE LLE N/A NWB WB w/Boot WBAT N/A ROM No ROM ROMAT LIMIT:	
Wounds	**Wound consult** Yes No **Skin** Intact At risk for Injury Concern for new/worsening breakdown Breakdown Present/addressed **Drains** **Dressing Changes:** Q Shift Daily	
Labs	Daily 4 6 8 12 None	
Dispo	SIMC Rehab Transfer ESTIMATED DC DATE	